

Biomass Harvest Guidelines – Soil Considerations

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Assumption: Forest management activities, particularly timber harvest and/or biomass harvesting, has the potential to disturb the organic forest floor and surface soils that are paramount to hydrologic function, temperature and moisture regulation, aeration and nutrient cycling. All of these variables are interconnected and support positive feedback mechanisms for soil biologies. The summation of all the above listed variables, including physical, chemical and biological soil properties, creates a suite of processes that together control soil productivity.

Potential Considerations

I. Terrain

1. Limit tradition, ground based harvest activities to slopes less than 40%
2. Skidding operations should avoid chronically saturated soils and/or areas where wet site indicator species are present.
3. Harvest operation should avoid hillslopes that present signs of instability such as raveling surface soils and pistol butted tree boles.

II. Detrimental Soil Disturbance

1. Plan skid trails to avoid dendritic patterns with focal point at main landings.
2. Space skid trails at a minimum of 45' feet.
3. Return skid slash to skid trails to allow operations on slash mats during harvest.
4. Avoid skidding in draw bottoms
5. Avoid, when possible and or practical, dispersed skidding.
6. Limit equipment operations to periods of soil moisture to 20% or less.
7. If considering winter harvest, potentially preset skid trails to allow overnight settling and freezing.
8. Avoid harvest operations during spring break up.

III. Nutrient Considerations

1. Consider recommendation within Graham et al. for retention of total downed woody material.
2. If whole tree skidding, consider lop and scattering every third load for CWD retention.
3. Consider retaining fine woody material as a proportion of total woody material that mimics the crown ratio of the pre-harvested stand.